

Data Workshop
Spring 2015 Measurements in Oil and Gas Production Regions

October 19-20, 2015

NOAA Earth System Research Laboratory
Boulder, Colorado

Monday, October 19

9:00-12:00 Plenary session (2A305)

9:00 Welcome by NOAA CSD Director, David Fahey and NOAA GMD Director, Jim Butler

9:10 Goals and Organization of the Meeting, Joost de Gouw, NOAA CSD & CIRES

9:20 *Summary of SONGNEX measurements*, Joost de Gouw, NOAA CSD & CIRES

9:30 *Summary of Four Corners measurements*, Eric Kort, Univ. Michigan

9:40 *Summary of JAGUAR measurements*, Shane Murphy, Univ. Wyoming

9:50 *Summary of BAO measurements*, Emily Fischer, Colorado State Univ.

10:00 *Report from the NOAA Atmospheric Chemistry, Carbon Cycle and Climate (AC4) program*, Monika Kopacz and Ken Mooney, NOAA CPO

10:10 Coffee break

10:30 *A quantification of methane emissions from oil and natural gas extraction regions in the Central/Western U.S. and a comparison to previous studies*, Jeff Peischl, NOAA CSD & CIRES

10:45 *4Corners - a mapping overview of hotspots from AVIRIS-NG and HyTES*, Christian Frankenberg, NASA JPL & Caltech

11:00 *Methane and VOC Emissions from Production in the Uintah Basin*, Anna Robertson, Univ. Wyoming

11:15 *Comparison of facility-level methane emission rates from natural gas production well pads in the Marcellus, Denver-Julesburg, and Uintah Basins*, Mark Omara, Carnegie Mellon Univ.

11:30 *Source attribution of methane emissions using ammonia to methane enhancement ratios*, Scott Eilerman, NOAA CSD & CIRES

11:45 *Comparing the VOC composition in several major U.S. shale basins*, Jessica Gilman, NOAA CSD & CIRES

12:00 Lunch break, off campus

13:30-15:30 Break-Out sessions by Basin

1. Four Corners (1B402) led by Eric Kort
Real time methane plume detection with ground-based verification from the 4-Corners JPL mapping campaign, Andrew Thorpe, NASA JPL & Caltech
Regional Column Ethane/Methane Observations at Four Corners, NM for Source Attribution, Manvendra Dubey, Los Alamos

2. Uintah Basin (2A201) led by Shane Murphy
Aircraft-based Measurements of Total Methane Emissions from the Uintah Basin in 2015, Tegan Lavoie, Purdue Univ.
Continuous time series of methane from the Uinta Basin Greenhouse Gas Network: preliminary linkage to emissions, John Lin, Univ. Utah
Atmospheric Conditions During SONGNEX in the Uintah Basin, Brian Blaylock, Univ. Utah

3. Other Basins (2A305) led by Joost de Gouw
NOy by Chemiluminescence and Cavity Ring-down, Kyle Zarzana, NOAA CSD & CIRES
Aircraft measurements of VOCs by H3O+ CIMS, Abigail Koss, NOAA CSD & CIRES
Diffusive sampling of VOC and PAH in the UGRB, Uintah and North Platte Basins, Rob Field, Univ. Wyoming

15:30 Tea break

16:00-17:00 Plenary session (2A305)

- 16:00 Reports from breakout groups
- 16:45 *Utility of Bottom-up and Top-down O&G Emission Inventory estimates for air quality management purposes*, Tom Moore, WRAP & WESTAR
- 17:00 Adjourn
-
- 18:00 Dinner at Sanitas Brewing Company (3550 Frontier Ave. Unit A, Boulder)

Tuesday, October 20

9:00-10:00 Plenary session (2A305)

- 9:00 *Methane inversions in the DJB from SONGNEX and four other campaigns*, Wayne Angevine, NOAA CSD & CIRES
- 9:15 *A spatially resolved fuel-based inventory of Utah and Colorado oil and natural gas emissions*, Brian McDonald, NOAA CSD & CIRES
- 9:30 *Revising the global ethane budget in GEOS-Chem*, Zitely Tzompa, Colorado State Univ.
- 9:45 *Regional photochemical modeling for SENEX-2013 and SONGNEX*, Stuart McKeen, NOAA CSD & CIRES

10:00 Coffee break

10:30-12:00 Break-Out sessions by Topic

1. Methane emissions (2A305) led by Gabrielle Petron
2. Non-methane hydrocarbons (1B402) led by Jessica Gilman
EPA Compliance Alert: Emissions from controlled storage vessels at onshore oil and natural gas production facilities, Cindy Beeler, US EPA
3. Chemical transformations (2A201) led by Emily Fischer
Quantifying atmospheric nitrogen outflow from the front range of Colorado, Andy Neuman, NOAA CSD & CIRES

12:00 Lunch break, off campus

13:30-16:00 Plenary session (2A305)

- 13:30 Reports from breakout groups
- 14:15 General science discussion
- 15:00 Discussion of other topics:
Data availability and comparability
Publications, journal special issues
Synthesis of results across basins

16:00 Adjourn